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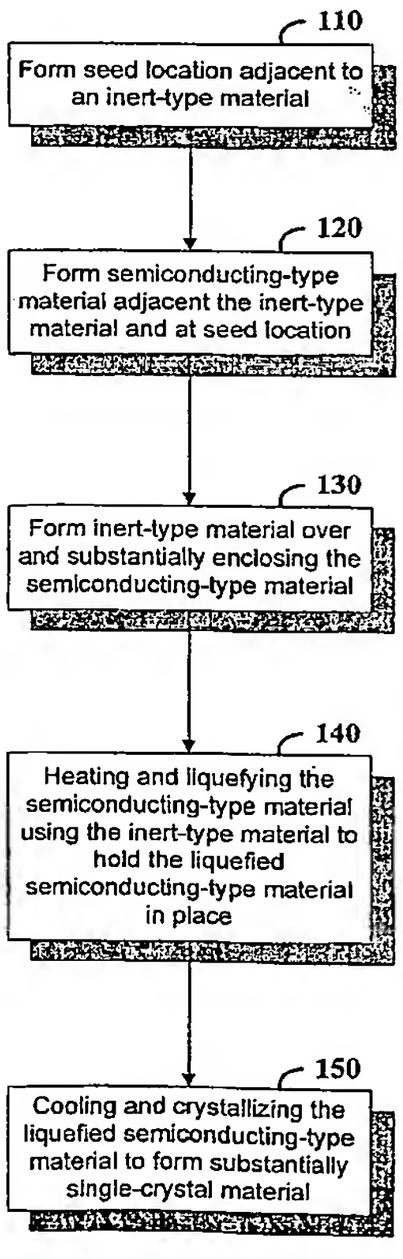
(54) Title: CRYSTALLINE-TYPE DEVICE AND APPROACH THEREFOR



(57) Abstract: Single-crystalline growth is realized using a liquid-phase crystallization approach involving the inhibition of defects typically associated with liquid-phase crystalline growth of lattice mismatched materials. According to one example embodiment, a semiconductor device structure includes a substantially single-crystal region. A liquid phase material is crystallized to form the single-crystal region using an approach involving defect inhibition for the promotion of single-crystalline growth. In some instances, this defect inhibition involves the reduction and/or elimination of defects using a relatively small physical opening via which a crystalline growth front propagates. In other instances, this defect inhibition involves causing a change in crystallization front direction relative to a crystallization seed location. The relatively small physical opening and/or the change in crystalline front direction may be implemented, for example, using a material that is relatively unreactive with the liquid-phase material to contain the crystalline growth.

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